

**RESPONSE TO RESTRICTION REQUIREMENT**  
**U.S. Appln. No. 09/890,463**

**IN THE CLAIMS:**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

Claim 1. (Previously Presented) An isolated polynucleotide molecule comprising a nucleotide sequence encoding a pigment protein from coral tissue (PPCT) capable of emitting fluorescence upon irradiation by incident light, wherein maximal absorbance of said incident light by said PPCT is in the range of 320-600 nm, and maximal fluorescence emission by said PPCT is in the range 300-700 nm.

Claim 2. (Previously Presented) The isolated polynucleotide molecule of claim 1, wherein said PPCT has a maximal absorbance of said incident light in the range of 550-580 nm, and a maximal fluorescence emission in the range of 400-630 nm.

Claim 3. (Previously Presented) An isolated polynucleotide molecule comprising a nucleotide sequence encoding a pigment protein from coral tissue (PPCT), wherein said polynucleotide molecule comprises a nucleotide sequence encoding a protein having the N-terminal amino acid sequence: SVIAK (SEQ ID NO:1).

Claim 4. (Previously Presented) An isolated polynucleotide molecule comprising a nucleotide sequence encoding a pigment protein from coral tissue (PPCT), wherein

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said polynucleotide molecule comprises a nucleotide sequence encoding a protein having the N-terminal amino acid sequence:

S V I A K Q M T Y K V Y M S G T V (SEQ ID NO:2).

Claim 5. (Previously Presented) The isolated polynucleotide molecule of claim 1, 2, 3 or 4, wherein said PPCT comprises a chromatophore region comprising the amino acid sequence: QYG.

Claim 6. (Previously Presented) The isolated polynucleotide molecule of claim 5, wherein said polynucleotide molecule comprises a nucleotide sequence encoding a protein having an amino acid sequence corresponding to the sequence shown as SEQ ID NO:3 or 4.

Claim 7. (Previously Presented) The isolated polynucleotide molecule of claim 5, wherein said polynucleotide molecule comprises a nucleotide sequence which has at least 80% identity to the sequence shown as SEQ ID NO:5 or 6.

Claim 8. (Previously Presented) The isolated polynucleotide molecule of claim 7, wherein said polynucleotide molecule comprises a nucleotide sequence which has at least 90% identity to the sequence shown as SEQ ID NO:5 or 6.

Claim 9. (Previously Presented) The isolated polynucleotide molecule of claim 7, wherein said polynucleotide molecule comprises a nucleotide sequence which has at least 95% identity to the sequence shown as SEQ ID NO:5 or 6.

Claim 10. (Previously Presented) The isolated polynucleotide molecule of claim 7, wherein said polynucleotide molecule comprises a nucleotide sequence substantially corresponding to the sequence shown as SEQ ID NO:5 or 6.

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Claims 11-16. (Cancelled).

Claim 17. (Previously Presented) A vector comprising a polynucleotide molecule of claim 1, 2, 3 or 4.

Claim 18. (Original) A host cell transfected or transformed with the vector of claim 17.

Claim 19. (Currently Amended) A process for producing ~~the-a~~  
pigment protein from coral tissue (PPCT) ~~of claim 11 or 12~~  
comprising the N-terminal amino acid sequence:

SVIAK (SEQ ID NO:1)

or a pigment protein from coral tissue (PPCT) comprising the  
N-terminal amino acid sequence:

SVIAKQMTYKVYMSGTVN (SEQ ID NO:2),

wherein the process comprises the step of cultivating a host cell transfected or transformed with a vector according to claim 17 under conditions suitable for expression of the polynucleotide molecule encoding the protein, and optionally recovering the expressed protein.

Claim 20. (Original) The process of claim 19, wherein the step of cultivating a host cell is conducted at a temperature in the range of 30-37°C.

Claim 21. (Original) The process of claim 19, wherein the step of cultivating a host cell is conducted at a temperature of about 35°C.

Claim 22. (Previously Presented) An oligonucleotide probe or primer comprising a nucleotide sequence that hybridizes selectively to a polynucleotide molecule according to claim 1, 2, 3 or 4.

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Claim 23. (Original) The oligonucleotide probe or primer of claim 22, wherein said probe or primer comprises at least 8 nucleotides.

Claim 24. (Original) The oligonucleotide probe or primer of claim 22, wherein said probe or primer comprises at least 18 nucleotides.

Claim 25. (Original) The oligonucleotide probe or primer of claim 22, wherein said probe or primer comprises at least 25 nucleotides.

Claim 26. (Previously Presented) The oligonucleotide probe or primer of claim 22, wherein the oligonucleotide probe or primer is conjugated to a detectable label.

Claims 27-31. (Cancelled).